

WHAT IS CLAIMED IS:

1. An insulative ceramic compact comprising a fired mixture of:

(A) a ceramic powder selected from the group consisting of MgAl_2O_4 , $\text{Mg}_3\text{B}_2\text{O}_6$ and $\text{Mg}_2\text{B}_2\text{O}_5$; and

5 (B) a glass powder comprising from about 13 to 50% by weight of silicon oxide calculated as SiO_2 , from about 8 to 60% by weight of boron oxide calculated as B_2O_3 , from 0 to about 20% by weight of aluminum oxide calculated as Al_2O_3 and from about 10 to 55% by weight of magnesium oxide calculated as MgO .

2. An insulative ceramic compact according to claim 1, wherein said glass comprises about 20 to 30% by weight of silicon oxide calculated as SiO_2 , from about 30 to 60% by weight of boron oxide calculated as B_2O_3 , from 0 to about 20% by weight of aluminum oxide calculated as Al_2O_3 , and from about 10 to 55% by weight of magnesium oxide calculated as MgO .

3. An insulative ceramic compact according to claim 2,

5 wherein said glass powder further comprises up to about 20% by weight or less relative to the total weight of the glass powder of at least one alkaline earth metal oxide selected from the group consisting of CaO , BaO and SrO , and up to about 10% by weight or less relative to the total weight of the glass powder of at least one alkali metal oxide selected from the group consisting of Li_2O , K_2O and Na_2O ; and

10 wherein said compact further comprises up to about 15% by weight relative to the total weight of said ceramic compact of zinc oxide calculated as ZnO and up to about 3% by weight or less relative to the total weight of said ceramic compact of copper oxide in a proportion calculated as CuO .

4. An insulative ceramic compact according to claim 3, wherein the weight ratio of said ceramic powder to said glass powder contained in said insulative ceramic compact is in a range from about 20:80 to 80:20.

5. An insulative ceramic compact according to claim 4, wherein the weight ratio of said ceramic powder to said glass powder contained in said insulative ceramic compact is in a range from about 30:70 to 50:50.

6. An insulative ceramic compact according to claim 1, wherein said glass powder further comprises at least one alkaline earth metal oxide selected from the group consisting of CaO, BaO and SrO in a proportion of about 20% by weight or less relative to the total weight of the glass powder.

7. An insulative ceramic compact according to claim 1, wherein said glass powder further comprises at least one alkali metal oxide selected from the group consisting of Li_2O , K_2O and Na_2O in a proportion of about 10% by weight or less relative to the total weight of the glass powder.

8. An insulative ceramic compact according to claim 1, further comprising zinc oxide in a proportion calculated as ZnO of about 15% by weight or less relative to the total weight of said ceramic compact.

9. An insulative ceramic compact according to claim 1, further comprising copper oxide in a proportion calculated as CuO of about 3% by weight or less relative to the total weight of said ceramic compact.

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10. An insulative ceramic compact according to claim 1, wherein the weight ratio of said ceramic powder to said glass powder contained in said insulative ceramic compact is in a range from about 20:80 to 80:20.

11. An insulative ceramic compact according to claim 1, wherein said ceramic powder comprises MgAl_2O_4 .

12. An insulative ceramic compact according to claim 1, wherein said ceramic powder comprises $\text{Mg}_3\text{B}_2\text{O}_6$.

13. An insulative ceramic compact according to claim 1, wherein said ceramic powder comprises $\text{Mg}_2\text{B}_2\text{O}_5$.

14. A multilayer ceramic substrate comprising an insulative ceramic layer comprising an insulative ceramic compact according to claim 1 having a plurality of electrodes within said insulative ceramic layer.

15. A multilayer ceramic substrate according to claim 14, having a second ceramic layer laminated on at least one side of said insulative ceramic layer, wherein said second ceramic layer has a dielectric constant higher than the dielectric constant of said insulative ceramic layer.

16. A multilayer ceramic substrate according to claim 14, wherein a pair of said plurality of electrodes are arrayed in parallel with each other with the interposition of at least part of said insulative ceramic layer to thereby constitute a capacitor.

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17. A multilayer ceramic substrate according to claim 14, wherein a number of said plurality of electrodes are interconnected so as to form a conductive coil.

18. A ceramic electronic part comprising a multilayer ceramic substrate according to claim 14 and at least one electronic part device, wherein said electronic part device is mounted on said multilayer ceramic substrate and constitutes a circuit with a number of said plurality of electrodes.

19. A ceramic electronic part according to claim 18, further comprising a cap being fixed to said multilayer ceramic substrate so as to surround said electronic part device.

20. A ceramic electronic part according to claim 19, wherein said cap is conductive.

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